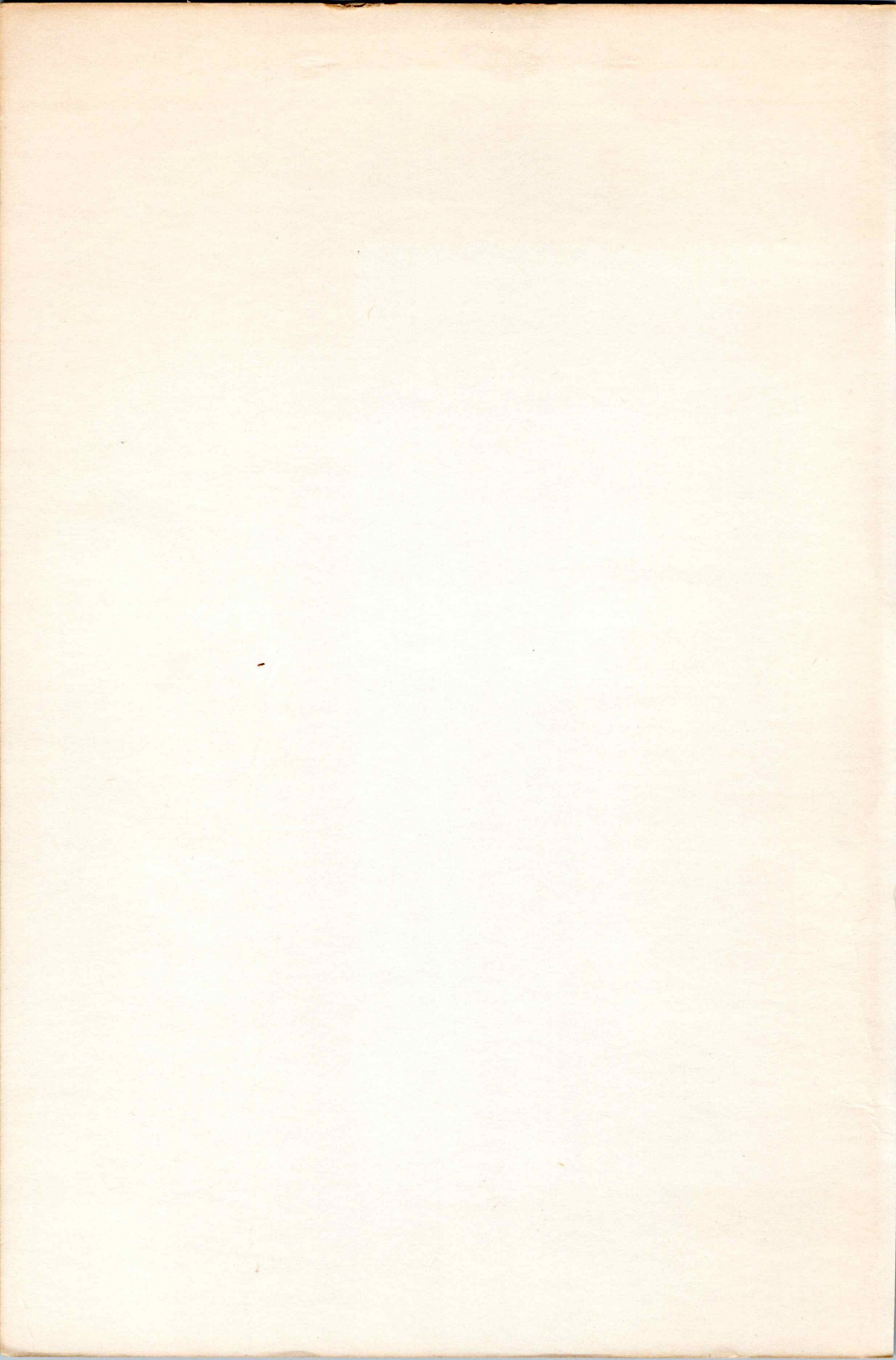


THE CHRISTCHURCH CHILD DEVELOPMENT STUDY

THE FIRST FOUR YEARS





STAFF OF THE CHRISTCHURCH CHILD DEVELOPMENT STUDY

AT APRIL 1982.

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CHAPTER 1: INTRODUCTION AND BACKGROUND TO THE RESEARCH.

1.1 Introduction

This report is a summary of the major findings of the Christchurch Child Development Study during the period 1977 to 1981. Primarily, it is intended to provide the parents who participated in the study with some feedback in return for their splendid cooperation. However, the report will also be of use to many professional and non professional groups with interests in child development. Most of the findings reported have been published previously and wherever it is appropriate, we cite the source on which our conclusions are based. At the same time, we have not hesitated to introduce hitherto unpublished material where this has been needed to expand our arguments and conclusions. In addition, we have avoided excessive reference to all of the possible considerations which might change or modify our conclusions. The results are, therefore, interpreted somewhat more freely than they would be in a published article in a scientific journal. The serious student is referred to the articles cited throughout the text for a more comprehensive statement of the research findings.

1.2 The Aims of the Christchurch Child Development Study and an Overview of the Research.

The aims of the Christchurch Child Development Study are three-fold. Firstly, to examine a number of issues which bear on illness and health in the child population. Secondly, to examine the community health services provided to children and the patterns of utilisation of these services. Finally, the study has the more general aim of examining the social, economic and other factors which may place children at a disadvantage socially, physically and educationally.

The project is a longitudinal or prospective study of a group (or birth cohort) of children who were born live in the Christchurch urban region in mid 1977. These children have been studied at birth, four months, one year, two years, three

years and four years using a combination of an hour-long interview with the child's mother supplemented by information from general practitioner records, hospital records, the child's Plunket Book and a diary record kept by the mother. The accumulated information from the four year study period is represented by the answers to over 3,000 questions per child which describe major aspects of the child's health and social history since birth.

1.3 Subject Confidentiality

A major concern to participants and others involved with social research is that confidential information is not made available to third parties. To safeguard the confidences of its respondents, the Christchurch Child Development Study has devised a complex security system. This system, which for obvious reasons cannot be described in exact detail, centres around the fact that all information collected about a child or family is stored on anonymous computer tapes and is represented by a system of coded digits. Thus, even if someone were to gain access to the computer data from the study all they would find would be a meaningless jumble of numbers. To interpret these they would then have to gain access to the coding rules which transform our subjects' verbal replies to computer codes and then to identify an individual family they would have to locate the master code list which relates the family's name to the corresponding computer records. Both the coding rules and master code lists are stored under lock and key. Finally, the data is protected by its very complexity and to be able to make any sense of the extensive computer files on subjects would require very detailed knowledge of the steps required to interpret the data.

We have been very aware of the fact that any information supplied to the Study must be given on the basis of the informed consent of the child's parents and at each interview mothers have signed a consent form releasing the data to the

Study and we have accepted the reciprocal obligation that no data associated with the child or the family will be released to any third party in a form which could be associated with the family.

1.4 The Children and Their Families

The children in the Study comprised 1265 children who were born in maternity units in the Christchurch urban region during the period 15th April, 1977 to 5th August, 1977. Of these children 1052 (83%) were nuptial children and 213 (17%) were ex-nuptial children. Forty per cent of children were first-born children, thirty-five per cent were second-born children and a quarter were third or later born children. In terms of ethnic composition the sample was predominantly Pakeha (88%) with 12% of children being of Maori or Polynesian descent.

The age range of the mothers was from 13 years to 45 years with a median age of 25 years. The mothers of ex-nuptial children tended to be younger (median age = 20) than the mothers of nuptial children. In terms of the socio-economic distribution of the sample 21% of children came from social classes 1 and 2 (professional and executive); 50% were from classes 3 and 4 (clerical, skilled); and 29% were from classes 5 and 6 (semi-skilled, unskilled). The religious affiliation of families was predominantly Protestant (74%) although 17% of mothers were Catholic and a minority (7%) described themselves as atheist or agnostic.

Throughout the study period a number of subjects have been lost to follow-up as the result of families moving from New Zealand, families declining participation and families we have been unable to find. However, these subject losses have been relatively small and the obtained sample of 1127 children at four years represented approximately 90% of the children who entered the research and 96% of the children who were still alive and resident in New Zealand. In addition, while the sample of children was born in Christchurch, by four years many (approximately 20%) had left the Christchurch urban region and moved to other parts of

New Zealand. Figure 1.1 shows the location of the cohort at four years.

1.5 The Plan of the Report

The report is divided into four chapters each of which deals with a major aspect of the research. Chapter 2 examines a series of topics which bear directly on child health and well-being. These topics include such issues as the incidence of childhood illness, breast-feeding, maternal smoking, accidental poisoning, circumcision and family stress. Chapter 3 takes a somewhat broader view and looks at community health issues including the use of preventive health care services, parental reactions to medical care and the hazards of domestic swimming pools. In contrast to the predominantly medical emphasis of the previous chapters, the fourth chapter examines a series of social issues including family planning, working mothers and child care and patterns of marriage formation and dissolution.

While for purposes of presenting the results, the distinction between child health issues, community health issues and social issues is a convenient method of classification, it must be borne in mind that this distinction is artificial and that in practice all three are intimately inter-related. The major conclusions of the research are drawn together in Chapter 5.

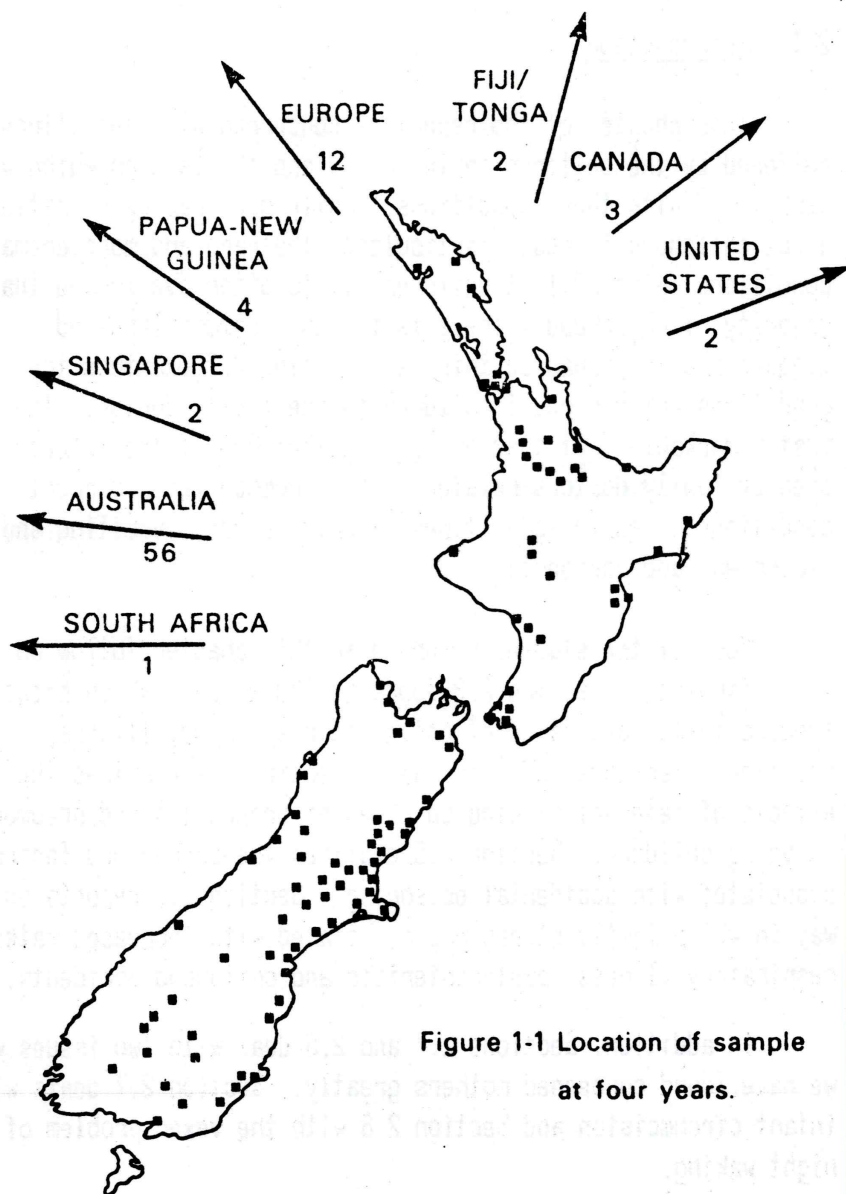


Figure 1-1 Location of sample
at four years.

CHAPTER 2: CHILD HEALTH ISSUES

2.1 Introduction

This chapter of the report is concerned with the illnesses suffered by the children in the Study and the factors which were associated with these conditions. While much has been written about childhood illness, particularly the rare and more dramatic conditions which afflict children, it is often overlooked that the majority of childhood illness is far more commonplace and mundane and to emphasise this fact Section 2.2 examines the conditions which brought children to the family doctor. The most remarkable fact that emerges is that 80% of the illness seen by family doctors related to four common yet recurrent conditions: respiratory illness, skin rashes, vomiting and diarrhoea, and accidents.

Most of the studies reported in this chapter follow on from these findings. Section 2.3 looks at the ways in which breast-feeding influenced rates of childhood respiratory illness, vomiting, diarrhoea and skin rash; Section 2.4 examines the effects of maternal smoking on rates of bronchitis and pneumonia in young children; Section 2.5 examines the background factors associated with accidental poisoning. Section 2.6 reports on the way in which family stress was associated with increased rates of respiratory illness, gastroenteritis and childhood accidents.

In addition, Sections 2.7 and 2.8 deal with two issues which we have found concerned mothers greatly. Section 2.7 deals with infant circumcision and Section 2.8 with the vexed problem of night waking.

2.2 Common Childhood Illness

In an attempt to provide an overview of the problems of child health in New Zealand, we conducted an extensive analysis of all the illnesses and health conditions experienced by our Study children in their first three years. The children had a high frequency of medical contact in their early years and, on average, by three years they had seen the family doctor nearly 16 times; that is, approximately once every ten weeks since birth. Of these consultations about one third were for routine preventive health care and two thirds for illness. Consultations with family doctors were dominated by coughs, colds and related respiratory problems and, in fact, almost half of the childhood illness consultations before three years were for these reasons. Skin rashes including eczema were the next most common reason and accounted for about one consultation in seven, various gastro-intestinal problems predominantly vomiting and diarrhoea were the next most common, followed by childhood accidents. The striking finding of the study was that, collectively, these four common groups of conditions (respiratory illness, skin rash, gastro-intestinal illness and accidents) accounted for over 80% of all childhood medical consultations (Figure 2.1).

These results perhaps have the greatest application in educating parents about childhood illness since they would suggest that the provision of simple and clear descriptions of these four common groups of illness, their treatment and likely future course should provide a good basis for educating parents about child health problems. This information would probably go a considerable way to reducing parental anxiety about these problems and may result in better care and management of children when they become sick.

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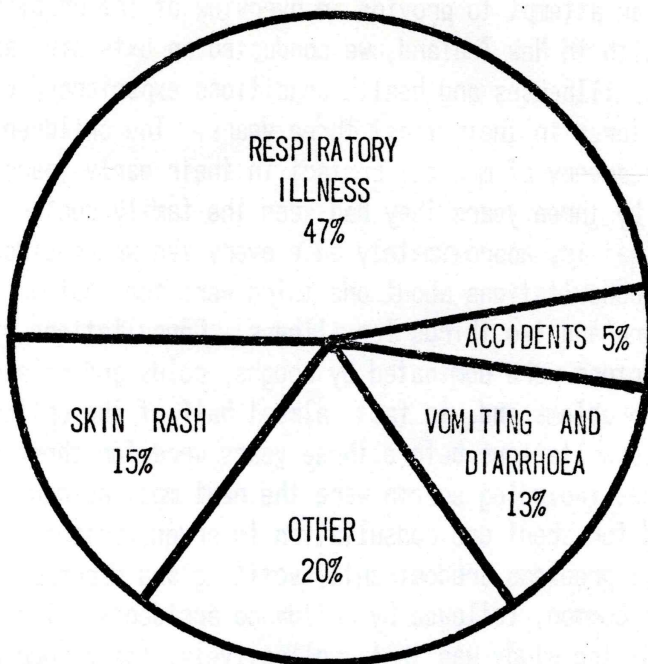


FIGURE 2.1: Proportions of family doctors consultations for various categories of illness.

2.3 Breast-feeding and Child Health

In the last decade there has been a revolution in the approach to infant feeding with a growing awareness and emphasis on the value of breast-feeding. Many advantages have been claimed for the breast-fed child including reduced risks of vomiting and diarrhoea, colds, flu and pneumonia, childhood eczema and various psychological benefits for both mother and child. However, the evidence from the Christchurch Child Development Study has failed to support many of these claims and with one or two exceptions we have found no evidence to suggest that breast-fed children fare any better than their bottle-fed peers.

The major difference in the health of breast-fed and non breast-fed children occurred in the first 16 weeks when bottle-fed infants suffered far more minor episodes of vomiting and diarrhoea than breast-fed infants (Figure 2.2). Thus, while 34 out of every 100 bottle-fed infants had vomiting and diarrhoea during this time only 10 out of every 100 children who were given an exclusive breast-milk diet had this problem. However, the protection against vomiting and diarrhoea conferred by breast milk was short-lived since after 16 weeks there was no difference between bottle-fed and breast-fed infants.

It has been found in other studies that breast-fed children have fewer coughs and colds and suffer less eczema. However, a careful analysis of the data from the Christchurch Child Development Study suggested that these results may be misleading. Overall, we found that it was true that breast-fed infants had fewer coughs and colds but this appeared to be due to the fact that women who elected to breast-feed were often better educated and came from socially privileged backgrounds in which child illness was less common. The association between bottle feeding and respiratory illness in children seemed to be more attributable to the social background of bottle-fed children (as a group) than any specific defect of bottle milk (Figure 2.3).

The analysis of the relationship between breast-feeding and childhood eczema proved to be a fascinating exercise. Overall, we did find evidence to suggest that children who had been given an exclusive breast milk diet with no solid food had less eczema than other children. However, more careful analysis of the data suggested that the critical factor involved was not breast milk but rather the fact that these children had not been introduced to solid food during early life. When we took into account the effects of solid feeding, there was virtually no difference in the rates of eczema for the two groups (Figure 2.4). These results suggest that the apparent benefits that have been attributed to exclusive breast-feeding in the past may have arisen because exclusively breast-fed children are not given solid food during early life.

Overall, the findings from the Christchurch Child Development Study do not provide strong support for the view that breast-feeding makes an important contribution to child health in New Zealand and this clearly runs counter to much conventional wisdom on the benefits of breast-feeding. How can we explain this discrepancy between the facts collected by the Study and the theories and opinions held by many responsible students of child health? The answer to this question seems to be that many people have tended to overlook the way in which the effects of social environment modify the benefits of breast-feeding. Thus, in socially disadvantaged Third World societies there is dramatic evidence of the benefits of breast-feeding. However, in a relatively well-educated and socially privileged country like New Zealand these benefits are considerably smaller.

While our research provides evidence of only marginal benefits for breast-feeding, we would hasten to add that in all cases breast-fed children did as well as, or better than, their bottle-fed peers and there seems little doubt that our results support the view that breast-feeding is best. However, they perhaps put in perspective the fact that in New Zealand the difference between bottle and breast-fed infants is not very large and suggest

that perhaps too much emphasis has been placed on the value of breast-feeding at the expense of other important aspects of child health. One fact has concerned us greatly. In a study of breast-feeding practices we found that over half the mothers who elected to breast-feed their children were unable to sustain breast-feeding for as long as they wished. In most cases this appeared to be due to, largely inexplicable, failures in the woman's milk supply. We gained the impression from our interviews that some women who failed to achieve their breast-feeding intentions were upset or guilty because they felt they had let their child down. What the findings from the study suggest is that there was very little factual basis for these feelings since the differences in the health of breast and bottle-fed babies were slight.

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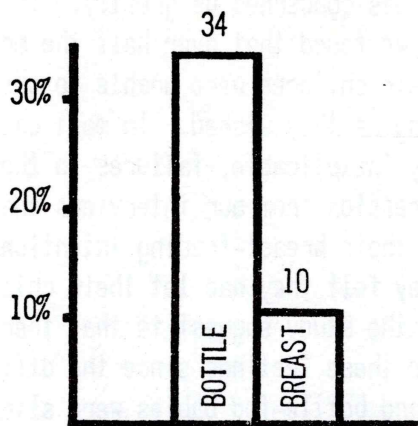


FIGURE 2.2: Percentages of children with vomiting or diarrhoea (0 - 4 months) by feeding method.

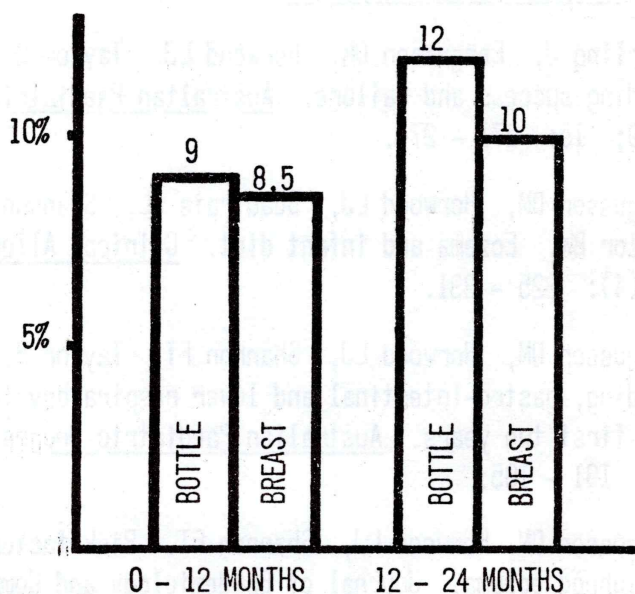


FIGURE 2.3: Percentages of children suffering lower respiratory illness by feeding method (adjusted for family social background).

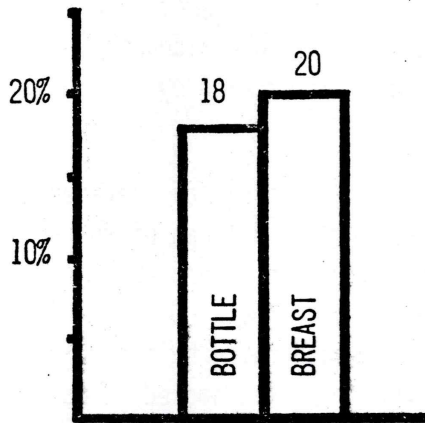


FIGURE 2.4: Percentages of children with eczema (0 - 3 years) by feeding method (adjusted for solid feeding).

2.4 Smoking and Child Health

Everybody knows that cigarette smoking is bad for health, increasing the risks of lung cancer and heart disease. However, various findings from the Christchurch Child Development Study underline the fact that smoking by a mother may be harmful to her child.

In common with the findings of previous studies of smoking during pregnancy, we found that children of mothers who smoked were smaller at birth than the children of non smokers (Figure 2.5). On average, the child lost about 100 grams ($\frac{1}{4}$ lb.) of birthweight per 10 cigarettes smoked daily by the mother during pregnancy. Thus, children whose mothers smoked 20 per day were, on average, about $\frac{1}{2}$ lb. lighter than those whose mothers did not smoke during pregnancy.

Not only did smoking appear to influence the child's weight at birth, but we also found evidence to suggest that maternal smoking increased the risk of miscarriage. Figure 2.6 shows the proportions of women having previous miscarriages related to daily smoking habits. The findings show that the rate of miscarriage increased with the number of cigarettes smoked by the child's mother, with women who smoked more than 20 per day having experienced nearly twice as many miscarriages as those who did not smoke. This association between maternal smoking and previous history of miscarriage could not be explained by the fact that women who smoked were older or that they had more pregnancies. This aspect of the study findings has been confirmed by an independent study in the U.S.A. which followed a group of women through pregnancy and showed a clear tendency for women who smoked to have higher rates of miscarriage.

However, the harm that maternal smoking does to child health does not stop at birth and there is a clear association between maternal smoking habits and rates of bronchitis and pneumonia in children up to the age of two years. Figure 2.7 shows the

proportions of children having bronchitis and pneumonia during the periods birth to one year and one year to two years subdivided by maternal smoking habits. At both ages the children of smokers have a clear tendency to suffer increased rates of bronchitis and pneumonia.

Statistical analysis of the data showed that the tendency for the offspring of smoking mothers to have more bronchitis and pneumonia could not be explained by variations in the child's health at birth or family social and economic conditions. These findings have been confirmed by independent research studies conducted in both Great Britain and Israel and the evidence clearly shows that during the first two years of the child's life maternal smoking does increase rates of childhood bronchitis and pneumonia. It seems that this relationship can be attributed to an irritant effect of cigarette smoke which increases the likelihood that normally occurring childhood respiratory illness will spread to the lungs and cause bronchitis and pneumonia.

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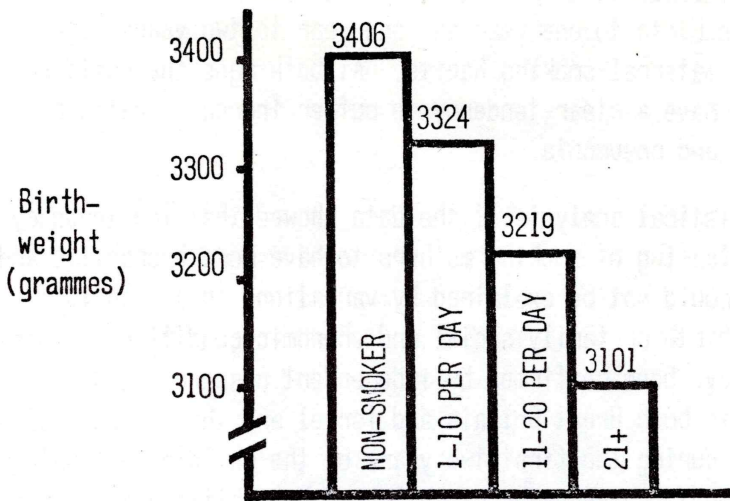


FIGURE 2.5: Average birthweight of children by mothers' smoking habits.

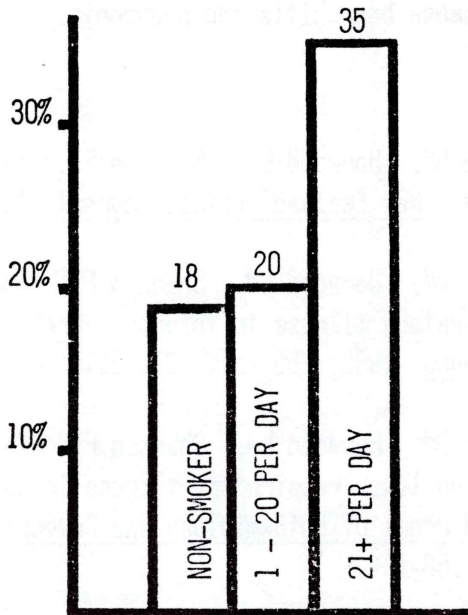


FIGURE 2.6: Percentages of mothers having a previous miscarriage by mothers' smoking habits.

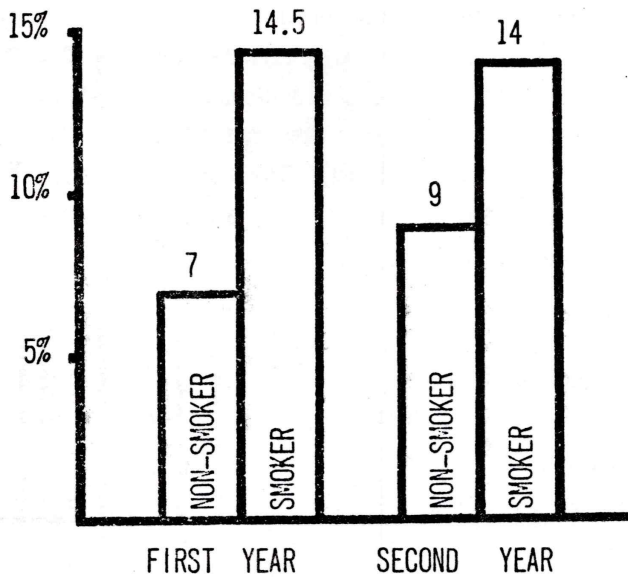


FIGURE 2.7: Percentages of children suffering bronchitis or pneumonia in the first two years by mothers' smoking habits.

2.5 Accidental Poisoning

Our study of the health history of the children in the Christchurch Child Development Study showed that accidental poisonings were remarkably common amongst preschool children and by the age of four years over 20% of the sample had ingested some substance that could be harmful. Approximately half of these children received medical treatment whereas the other half were treated at home. The substances most frequently involved in accidental poisoning were medicines, drugs and household cleansers (Figure 2.8).

Perhaps one of the most surprising findings was that the common exhortation to parents to lock up their poisons was not as effective in preventing poisoning as might be supposed. When the children in the study were two and three years old we examined methods of poison storage in households and the results showed that poisonings were as common in households where poison storage was lax as they were in households where stringent precautions were taken. The reason for this puzzling finding was that a majority of poisonings occurred when the poison had been taken from its usual place of storage and had been left lying around. The message from the research seems to be not only to lock up poisons but rather to make sure that poisons are returned to a safe place of storage immediately after use.

We examined a number of factors which may have influenced levels of childhood poisoning and the major finding was that the presence of various forms of stress and difficulty in the family (for example, marital discord, financial problems, bereavement) were the factors most related to poisoning and this was reflected in the fact that children whose mothers were taking tranquillising medication had rates of accidental poisoning which were twice those of children whose mothers did not use tranquillisers. This suggests that stress in the family

tends to divert parents' attention away from their child and towards their own problems. This reduction in vigilance is reflected in higher rates of poisoning for children.

We also conducted an evaluation of a particular poison prevention method. This method was the MR YUK label developed in the U.S.A. as a means of poison prevention (Figure 2.9). MR YUK is a label showing a green-faced grimacing man with a protruding tongue and the idea behind the scheme is that parents label all products in the household with MR YUK and teach their child that anything so labelled is not to be eaten, drunk or tasted. While MR YUK is widely used in the U.S.A., there have been no field tests of how well this approach works in practice. Since the National Children's Health Research Foundation was interested in MR YUK as a means of poison prevention, they asked us to test out MR YUK on the families in the Christchurch Child Development Study. To do this, we supplied half the families with MR YUK stickers and instructions on how to use these stickers and then followed up the families during the period two to three years to see whether the families supplied with MR YUK differed from those not supplied with MR YUK.

Unfortunately, the results turned out to be negative. We did not find that families supplied with MR YUK had any lower rates of poisoning (Figure 2.10) and, in fact, one in three of these families complained that MR YUK tended to attract their child to poison bottles. However, while we found no evidence to support the idea that MR YUK was an effective poison prevention method, the study did have the positive benefit of discouraging the National Children's Health Research Foundation from investing time and much money on a project which probably would not have influenced rates of childhood poisoning but which may have caused concern to many parents.

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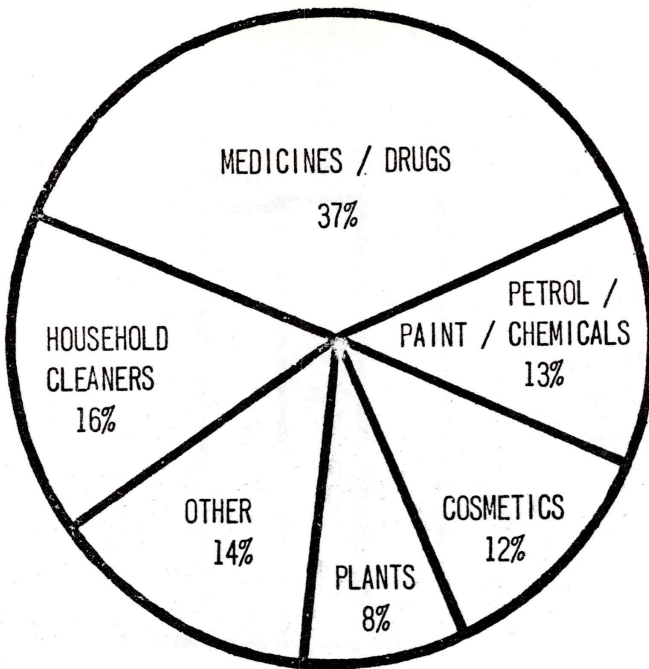


FIGURE 2.8: Sources of accidental poisoning.

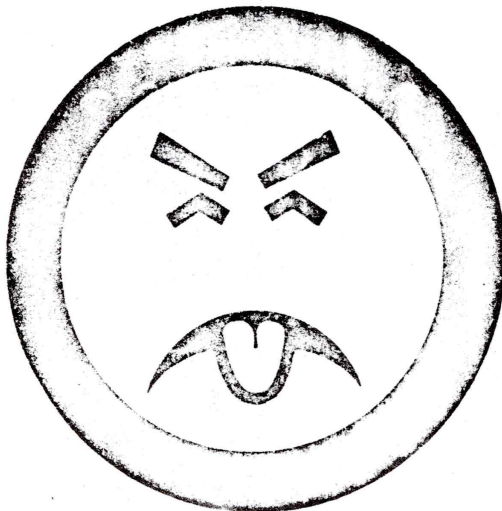


FIGURE 2.9: MR YUK label. (Note: Original label was bright green).

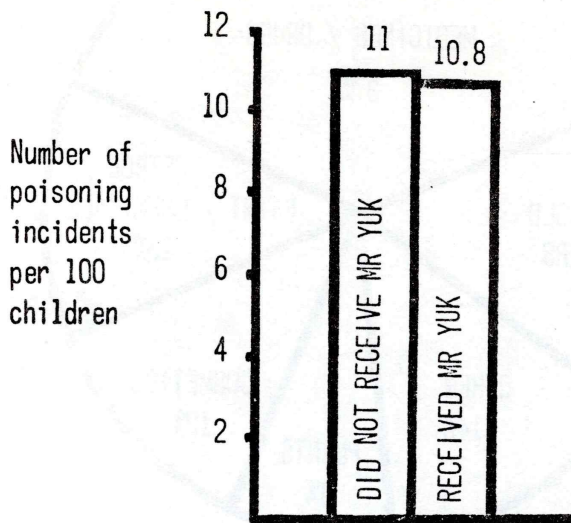


FIGURE 2.10: Comparison of the numbers of children poisoned between families who received MR YUK and other families.

2.6 Does Family Stress Cause Childhood Illness?

Throughout the course of the Christchurch Child Development Study we have been examining the rates at which families experience various stressful conditions and problems such as marital discord, separation, financial problems, health problems and bereavement to see whether these conditions have any influence on child health. The results of the four year study lead very clearly to the conclusion that various stresses in the child's family do increase rates of childhood illness quite dramatically. We found that by four years children who came from families experiencing 12 or more stressful life events since the child was one year had six times the rate of hospital admission (Figure 2.11) and over twice the rate of medical attendance for bronchitis, pneumonia, gastroenteritis, accidents, burns and poisonings (Figure 2.12) than did children whose families experienced three or fewer of these events. This association persisted when various social and economic features of the child's family were taken into account showing that irrespective of family social background, stress in the family had clear effects on levels of child health.

At this point it is not entirely clear how high levels of stress increase problems of ill health in children but at least two explanations are possible. First, problems in the family may divert the parents' attention away from their child and toward their own problems. This could have the effect of decreasing the standard of care and attention given to the child with a resultant increase in child health problems. Alternatively, it is possible that living in a stressful home atmosphere influences the child's susceptibility to illness in a way not yet understood. It seems likely that both factors may be involved. For example, the higher rates of accidents, burns and poisonings amongst families facing stress may be explained by the fact that levels of parental attention to the child are reduced by the presence of problems. On the other hand, the greater rates

of bronchitis, pneumonia and gastroenteritis may reflect the fact that children living in stressful or unhappy environments become more susceptible to common illness.

It is clear that stress in families cannot be entirely eliminated and there will always be families who go through various social, emotional and financial problems. However, the findings do suggest that in some cases, providing the family with support, assistance or guidance during troubled times may not only solve the immediate problems but may have indirect consequences for child health. This, of course, reinforces the well worn paediatric dictum that in many cases of childhood illness it is as important to help the family with its general problems as it is to treat the child's symptoms.

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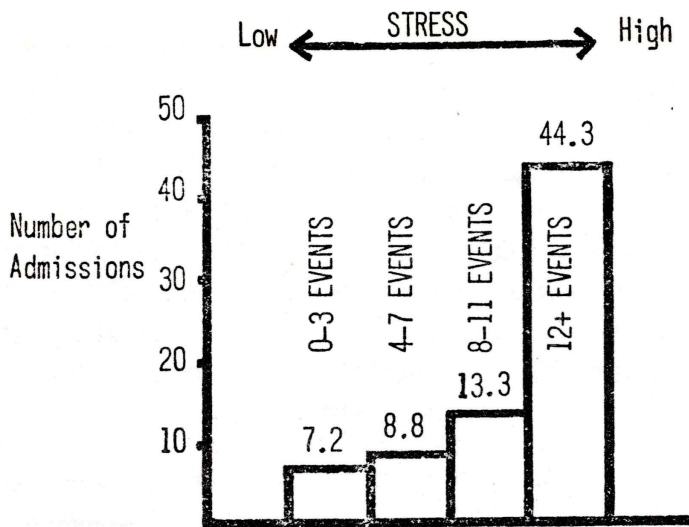


FIGURE 2.11: Number of hospital admissions per 100 children aged 1 - 4 for bronchitis, pneumonia, gastro-enteritis, and accidents, for varying levels of family stress.

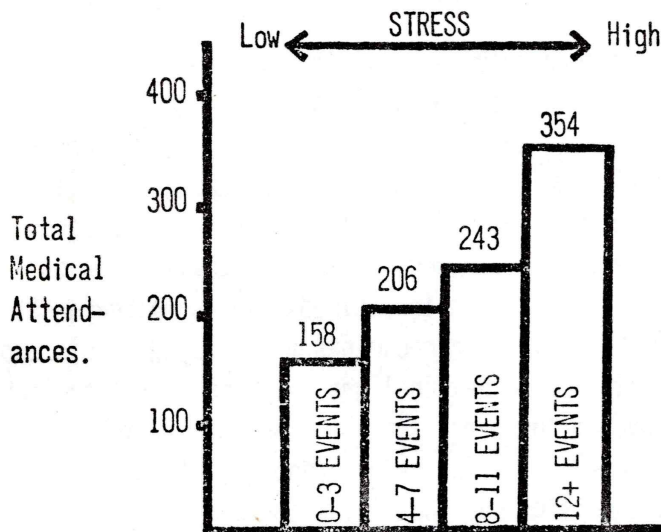


FIGURE 2.12: Total number of medical attendances per 100 children aged 1 - 4 for bronchitis, pneumonia, gastro-enteritis, and accidents, for varying levels of family stress.

2.7 Circumcision

A decision that every parent must face shortly after the birth of a son is whether or not he is to be circumcised. Current medical and paediatric opinion is now clear on this issue. Unless there are sound medical reasons for circumcision, the operation should not be performed and in the last decade there has been an active movement amongst most of the medical profession to discourage routine circumcision. However, the operation still persists and we were interested to find out the reasons which made parents decide to circumcise their child.

Of the 1177 children studied to age one year, 590 were male children and of these 146 (25%) were circumcised. Comparison of the proportion of children circumcised with the proportion of fathers circumcised revealed that there has been a dramatic in the popularity of the operation. While 62% of the fathers of children in the study were circumcised, only 25% of the male children were circumcised showing that in contrast to the previous generation, the circumcised boy now belongs to a minority.

When we questioned mothers about the reasons for electing to have their child circumcised, we found it difficult to get a clear answer to this question. However, several themes recurred throughout mother's replies. First, it would appear that in many cases circumcision was a family tradition and boys whose fathers and brothers were circumcised were more likely to be circumcised than those with uncircumcised fathers or brothers. The opinions of the child's grandparents also played a role and children whose maternal or paternal grandparents were reported as being in favour of the operation were more likely to be circumcised (Figure 2.14). The major reason put forward by mothers in favour of circumcision was that it was more hygienic; a minority cited other beliefs including improvement of male sexual performance, that a circumcised penis was more aesthetically pleasing,

and that circumcision reduced the risks of cancer of the penis and cervix. Interestingly, only a small minority of those who had their child circumcised did so because of medical advice. The major reason given by those not choosing to have the operation performed was that it was painful for the baby and unnecessary.

We must admit that at the end of the analysis we were still rather perplexed about the answer to the question: "Why do parents have male children circumcised?" While the findings provided some suggestions about the role of family traditions and the perceived hygienic advantages of circumcision, our overriding impression was that parents who elected to have their child circumcised often could not really tell us why they had reached this decision. Our impressions (and we must stress here that we have no firm evidence for this conclusion) are that circumcision is part of a whole series of rituals which have surrounded the birth of children. Many parents had learned these rituals as part of their childhood experience and naturally expected them to be observed for their own children.

Our study of children from birth to four years has produced no evidence which would suggest that children who are circumcised experienced any advantages from the operation and, indeed, in the first year of life these children tend to suffer greater penile problems because of problems of infection of the circumcision wound and inadequacies in the circumcision technique.

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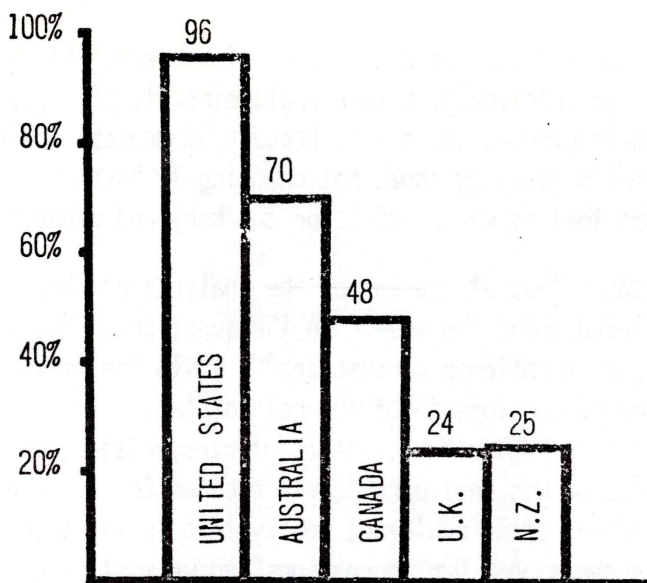


FIGURE 2.13: Rates of circumcision in various countries.

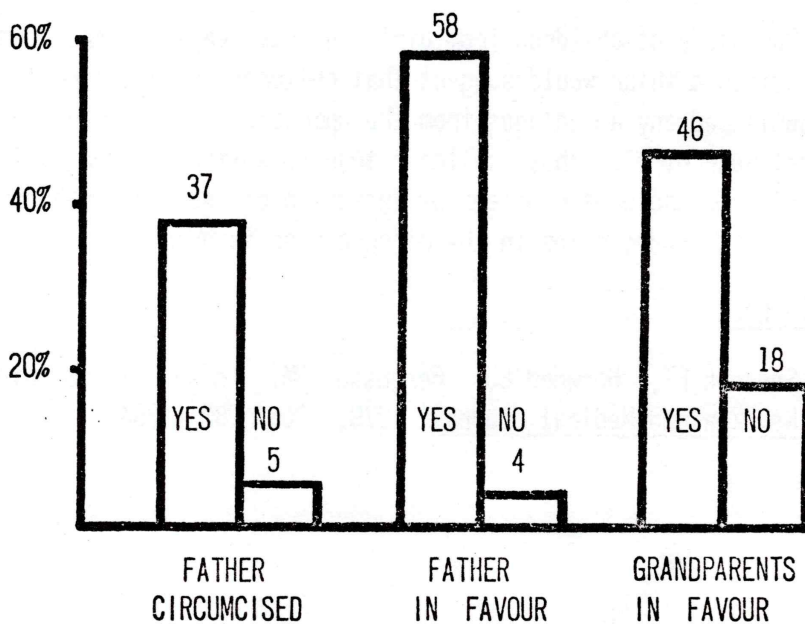


FIGURE 2.14: Family characteristics related to circumcision.

2.8 Night Waking: A Common Problem

There is an old story about the neurosurgeon who met his paediatric colleague in the hospital corridor. "How's your son?" asked the paediatrician. "Fine", replied the neurosurgeon "the only problem is that he has been waking up every night for the last year and my wife and I are completely worn out." At this point the paediatrician looked pensive "Ah," he said, "You've got that problem too. Do you know of anything that works?"

In fact, we found that night waking behaviour in children was one of the most common complaints that our study mothers mentioned about child rearing and that the problem of the chronically wakeful child who wakes at night crying and demanding attention occurred in all segments of society. Wakeful infants were nearly as common as infants who slept peacefully without disturbing their parents' slumbers. From our analysis of infant sleeping patterns we were able to identify four quite distinct groups of children.

The first we called chronic night wakers who were children who had wakened regularly at night from birth to at least one year of age and often until as late as two years. These children were surprisingly common and about 10% of the children in the Study showed this pattern of chronic wakefulness at night.

A second quite distinct group which emerged were the late wakers. These were children who spent an uneventful first year but developed night waking behaviour at around 15 months. Usually this took the form of the child waking and demanding to enter the parental bed. Just under a fifth of the children showed regular late waking behaviour.

A further group of children were those who showed irregular night waking behaviour which tended to come and go for no apparent reason. These children comprised about a fifth of the sample.

Finally, there were those who we described as "non wakers", that is, children who slept throughout the night. These children comprised just over half the children studied.

Thus, some form of regular night waking behaviour was present for about half the children studied and 10% had a chronic night waking problem.

Despite the frequency with which children displayed night waking behaviour, we were unable to find any clear reasons for this happening. However, two results did emerge from our study. First, we found that children having chronic night waking problems had always been active, wakeful infants from birth who tended to sleep less in the day and at night than other children. It seems likely that many of these children were constitutionally predisposed to be active and wakeful and in any population of children or adults one expects to find a certain percentage who are highly active and, of course, those who are less active. Thus, to some extent the problem of night waking in children reflects the fact that all children are not the same and have their individual patterns of waking, sleeping, feeding etc. We found also that the late waking children more often were first-born and it seems likely that night waking which begins at around 15 months is probably learned by the child and is more frequent amongst first-born children because of the more permissive and perhaps less experienced behaviour of parents rearing their first child.

However, the Study failed to provide any definite solutions to the problem of stopping children waking at night. So, following the best paediatric tradition, if you have some tried and tested method for stopping children waking up at night, please let us know. There must be millions of parents around the world who would dealy love to know the secret!

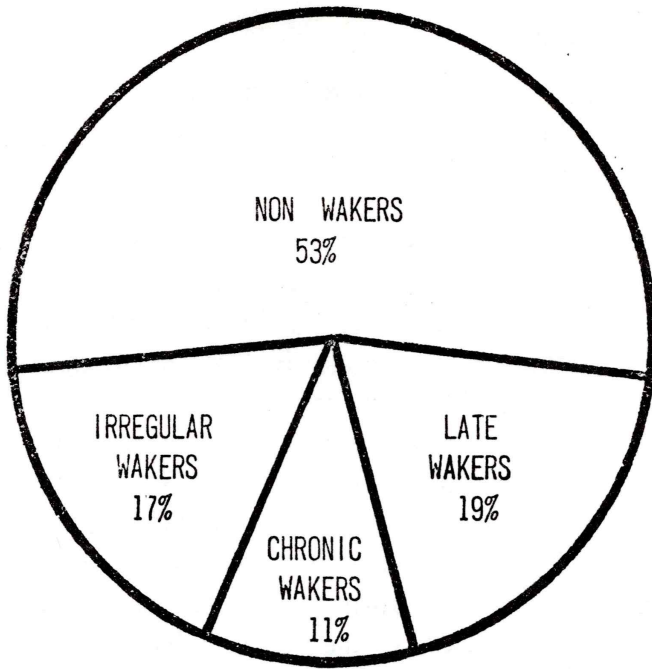


FIGURE 2.15: Night waking patterns.

CHAPTER 3. COMMUNITY HEALTH ISSUES

3.1 Introduction

This section deals with a mixed bag of topics all of which bear on ways in which health and health care were delivered to the children in the Study.

Section 3.2 describes a major finding from the Study by documenting the way in which various aspects of childhood preventive health care are maldistributed throughout the child population with socially under-privileged children receiving fewer of the available health care services than their more fortunate peers. This section exposes a common fallacy that is held about the so-called Welfare State in New Zealand which is often held to be over-protective and to stifle individual enterprise. In fact, the findings show that in terms of child health care the "Welfare State" is subject to similar laws that govern free enterprise with the child of the socially advantaged family consuming a disproportionate amount of the available child health care services.

To look at health care from the parents' viewpoint Section 3.3 examines parental reactions to the care provided by the family doctor and Plunket nurse. These results show that family doctors are highly valued and only about one in twenty mothers expressed any dissatisfaction. However, a larger number did admit to having conflicts with their doctor. These conflicts centred around three themes: the mother feeling that the doctor was not providing adequate care; the doctor treating the mother as though she were over-anxious and lack of accessibility to the doctor at evenings and weekends.

Reactions to the Plunket service were more negative with nearly a quarter of mothers being neutral about or dissatisfied with this service. Dissatisfaction tended to be highest amongst

young mothers and single parents. The major sources of conflict with the Plunket nurse were over feeding regimes and weight gains.

In the last decade there has been a dramatic increase in the number of domestic swimming pools in New Zealand and this has been paralleled by an increase in the numbers of preschoolers who drowned in domestic pools. However, very little has been known about the safety standards of home pools or the level of exposure that children have to drowning hazards. The results described in Section 3.4 show a remarkably high access to swimming pools with nearly one child in three living in the immediate vicinity of a swimming pool. Safety standards for pools were not good and one pool in every five lacked any safety feature whatsoever. Clearly, the results of the study point to the need for an integrated community approach to implement and enforce suitable safety standards for all domestic pools.

In the light of New Zealand's declining economic situation, another issue which has been of concern has been the cost of child health care. Section 3.5 looks at some results of a study which suggests that considerable savings could be made through a more conservative use of antibiotics in childhood respiratory illness. It has been estimated that about one respiratory illness in every 10 is responsive to antibiotic treatment, yet the study found that six out of every 10 respiratory illnesses were treated in this way suggesting that a considerable proportion of the antibiotics prescribed for childhood respiratory illness were both expensive and unnecessary. Further, since antibiotic prescriptions for common respiratory illness accounted for nearly one third of all medication prescribed to children, it is clear that a reduction in rates of antibiotic prescribing could have a marked effect on the costs of medical care for pre-school children.

3.2 The Law of Inverse Care

One of the principles on which the New Zealand system of child health and welfare has been founded is that all children irrespective of race, class or creed should be provided with an equitable standard of care. To implement this principle, New Zealand has developed an array of services designed to provide for the health needs of preschool children. These services include:

- i) A routine postnatal check when the child is six weeks old.
- ii) Immunisation at three months: whooping cough, diphtheria, tetanus and oral polio.
- iii) Booster immunisation at five months: whooping cough, diphtheria, tetanus and oral polio.
- iv) Immunisation at 10 - 14 months: measles.
- v) Immunisation at 18 months: diphtheria, tetanus and oral polio.

In addition, advice on child rearing and child care is provided by the Plunket Society whose nurses are in contact with about 97% of mothers and free preschool dental care is provided from the age of two years onwards by the School Dental Service.

However, the presence of these (predominantly) free child health care services does not mean that all children are necessarily guaranteed an equitable standard of care (Figure 3.1). The findings of the Study show a clear and systematic tendency for child health care in New Zealand to be maldistributed with children from single parent families, from families with low incomes, children of Maori and Polynesian ethnic origin, and those from families of limited educational background receiving less health care than their more fortunate peers. Thus, the distribution of child health services tends to be such that the children who are probably most in need of good regular health care are those least likely to receive this care and, conversely, those in the least need of such care are those most likely to receive it.

Julian Hart has described this tendency as the "Law of Inverse Care".

New Zealand does not have this problem alone and, indeed, studies of the health care systems of nearly all developed countries have revealed a systematic tendency for under-privileged children to receive less routine health care than their more fortunate peers. In view of this common tendency of well-intentioned health systems to fail to reach the children in most need of care, it is clearly a matter of some importance to consider the various ways and means by which this situation could be remedied.

The most common response to evidence that some children are failing to receive adequate preventive health care is to suggest that through parent education and increased advertising this situation may be remedied. Unfortunately, the research evidence tends to suggest that such programmes are largely ineffective because the parents who are responsive to education and public appeals are those who have already provided an adequate standard of care for their child while those who remain unresponsive tend to be those whose standards of care are less adequate.

Greater utilisation of existing community health services is another option which has attracted interest. Certainly, in New Zealand there appears to be ample scope for capitalising on existing resources since, on average, children see a family doctor 16 times in the first three years and given this high consultation rate, there does seem to be ample opportunity to impress on parents the need for good regular child health care and for intensive follow-up of those children who appear to be at risk of missing this care.

In an attempt to overcome this problem, the French have developed a more active approach to ensuring that all children will receive health care by introducing benefit payments to parents who produce evidence that their child has received some stipulated level of care. Perhaps this system could be modified to fit New Zealand conditions by linking child health care requirements to the existing family benefit system? This possibility has been aired on several occasions but has been subject to the criticism that the element of coercion implied by financial incentive would not be acceptable to New Zealanders. In fact, this argument does not withstand scrutiny since when we questioned mothers about the desirability of compulsory health care for pre-schoolers, we found that an overwhelming majority of mothers (89%) were in favour of some form of compulsory health care system.

While it is unlikely that a simple and politically acceptable method of improving child health care delivery will be found in the near future, the findings from the Christchurch Child Development Study do show clearly that in terms of routine health care, some children are more equal than others. Hopefully, this information will stimulate the medical profession, the public and politicians to seek new and creative ways of ensuring that all New Zealand children receive a uniform and high standard of preventive health care.

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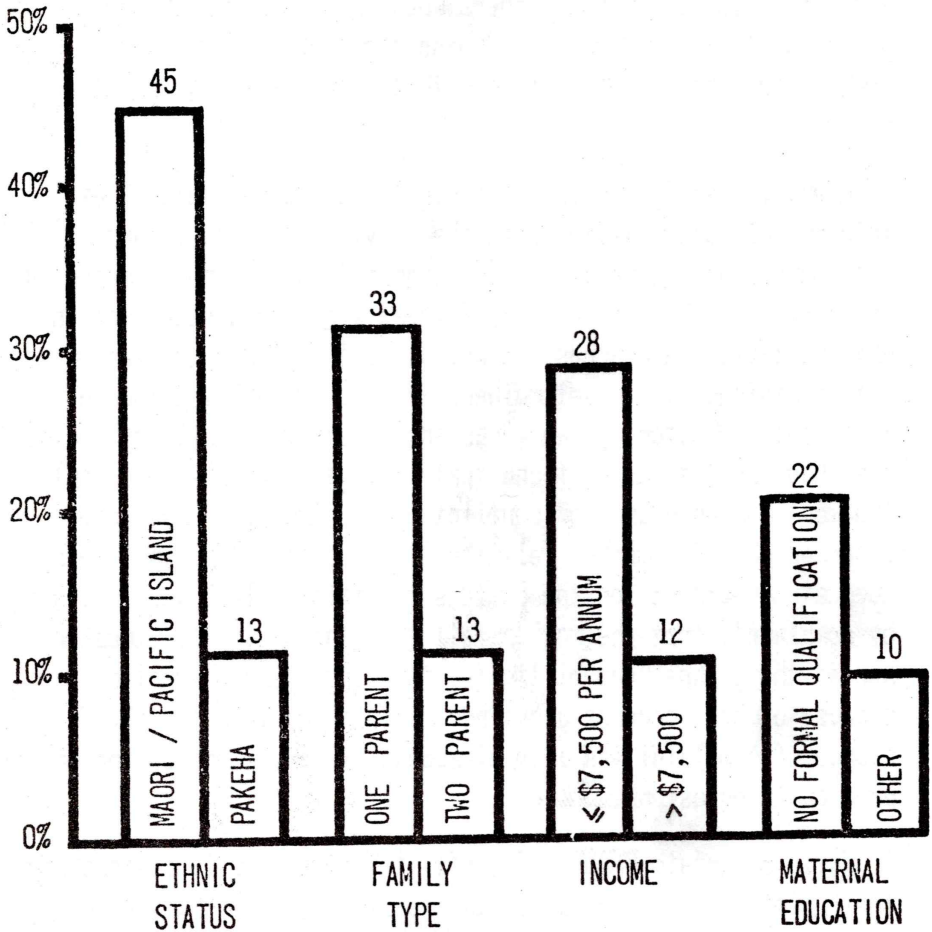


FIGURE 3.1: Percentages of children missing two or more preventive health procedures.

3.3 Parental Reactions to Health Care

A major emphasis of the Christchurch Child Development Study has been upon the health care delivered to children. However, there is another side of the story: the feelings and reactions of parents to the treatment given to their child. To learn about this we questioned mothers when their child was three years old about their feelings concerning the level of care and service they had received from both the family doctor and the Plunket nurse.

Overall, family doctors were highly valued and only 5% of mothers felt dissatisfied with the service received (Figure 3.2), although larger numbers did make suggestions for improvements in the service. The most common of these were for a reduction in waiting times and charges. However, waiting times and fees were not the things that upset mothers most about the behaviour of their family doctor. When we asked mothers to recall any incidents that had upset them, we found that three themes dominated replies. The most common source of conflict between mothers and doctors occurred when the mother felt that the doctor was not providing adequate treatment for the child's condition. This was followed by complaints that the mother felt that the doctor was treating her as though she were of limited intelligence or neurotic because of her concerns about her child's health. The third source of complaint was lack of accessibility to the doctor on particular occasions.

While a certain amount of conflict between family doctors and their patients is inevitable, the results of this study do point to ways in which the conflicts may be minimised. In particular, the conflicts between mothers and doctors over both treatment methods and anxiety almost certainly arise from the differences in the skills and involvement of the family doctor and the mother. The family doctor is a highly skilled individual with minimal emotional involvement whereas mothers often have very limited

medical knowledge but are highly involved. Under these circumstances it is not surprising to find doctors becoming impatient about mothers who are overly anxious about what to the doctor may be a common (and perhaps trivial) complaint. On the other hand, many mothers may feel that the doctor's apparently casual approach to illness in her child indicates a lack of concern and perhaps medical ability. It is far too trite to suggest that these problems can be overcome by either training all doctors to always respect the anxieties of their patients' mothers or expecting that mothers should become experts in child health and approach all childhood conditions with the objectivity of a professionally trained medical person. However, perhaps some compromise is possible so that doctors become a little more sensitive to the anxieties of mothers and, of course, mothers become a little more educated about the nature of childhood illnesses. As discussed in Section 2.2 on common childhood illness, the latter largely involves understanding the sources and course of four common childhood conditions: respiratory illness, skin rash, accidents and gastro-intestinal illness. While such a compromise may not always prevent doctors from becoming impatient with their patients' mothers, nor prevent mothers worrying unnecessarily, it may bring the understandings of both parties closer together and minimise the risk of conflict.

Reactions to the Plunket nurse tended to be more negative with nearly a quarter of mothers being indifferent to the service or feeling dissatisfied with it (Figure 3.3). While many mothers recognised the various advantages of the Plunket service (e.g. the reassurance provided by regular checks; the value of the Plunket Book and the provision of useful advice on child-rearing methods) a substantial minority felt that there was a need for greater acceptance by Plunket nurses of different child rearing styles, that more information about the social and emotional aspects of child rearing should be provided and that Plunket nurses should be less dogmatic. These complaints were more common

amongst young mothers and single mothers. The major source of conflict between Plunket Nurses and mothers appeared to be in the area of infant feeding and weight gains, with many mothers disagreeing with Plunket advice about the age solid feeding should be introduced and becoming upset if told their child was gaining too much or too little weight.

It must be stressed here that the role of the Plunket Nurse is not an enviable one since frequently she initiates contact with the mother and usually sees the child when he or she is perfectly well. These conditions are likely to foster maternal complaints about the Nurse's right to give the mother advice and this is probably increased by the fact that Plunket nurses are not seen as having the same authority or status as doctors. It is not surprising under these circumstances to find greater sources of conflict between Plunket Nurses and mothers and as a consequence greater dissatisfaction with the Plunket Nurse. At the same time, it would be incorrect to assume that the Plunket Nurse is an unpopular person with her clients since over three-quarters of mothers seen by Plunket felt that the service was helpful or very helpful.

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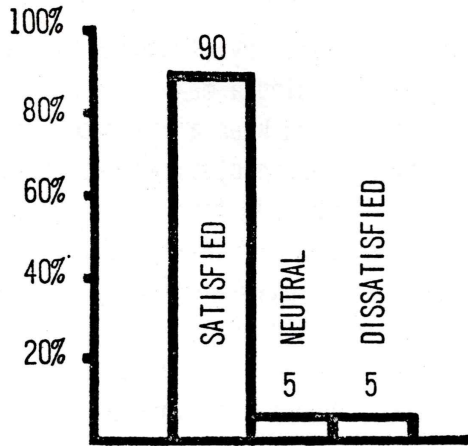


FIGURE 3.2: Mothers' reactions to service of family doctor.

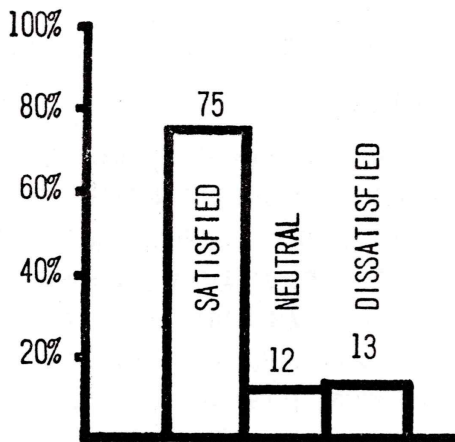


FIGURE 3.3: Mothers' reactions to service of Plunket Nurse.

3.4 Antibiotics and Respiratory Illness

The discovery of penicillin by Alexander Fleming heralded a new age in medicine by providing a means of curing bacterial infection which previously had been a major source of death and severe illness. However, the spectacular success of antibiotics has led to a commonly held belief that these miracle drugs are a panacea for many if not all of mankind's illnesses. In fact, this is not the case: antibiotics work only on infection caused by bacteria and not on infection caused by viruses. (The difference between bacteria and viruses is that bacteria can exist independently of the cells which they attack whereas viruses cannot exist outside of these cells). This fact is the reason why no "cure" for the common cold has been found, since it has been estimated that 90% of colds, flu, bronchitis and the like are caused by viruses.

As part of the Christchurch Child Development Study we examined the proportion of childhood respiratory illness that was treated with antibiotics and found that just under two thirds of all childhood coughs, colds etc. seen by a general practitioner were treated with an antibiotic prescription (Figure 3.4) Since 90% of these conditions were likely to be viral, it is clear that a considerable number of viral respiratory illnesses were treated with antibiotics which would have no effect on them.

The reasons for the high rate of antibiotic prescribing for childhood respiratory illness are unclear, but several factors may be involved. First, parents may have the strong expectation that childhood respiratory illness should be treated with antibiotics and directly or indirectly convey these expectations to the doctor. Secondly, it is not easy to distinguish between bacterial and viral infections on the basis of clinical signs and symptoms. Finally, antibiotics have very low toxicity and seldom produce harmful side effects. In our study of nearly 3,500 antibiotic prescriptions we found only 27 cases where the

drug had produced any reactions and all of these were minor, requiring no further treatment other than the withdrawal of the drug. Thus, on common sense grounds there is considerable justification for the high rate of antibiotic prescriptions for childhood respiratory illness. Such a prescription may satisfy parental expectations, it may protect the child against a possible bacterial infection and in any event should do little harm. However, against this quite reasonable justification must be balanced two other considerations. Firstly, the costs of antibiotics: at the present time New Zealand's Health Services are undergoing considerable financial stress and stricture and it is clear that any step which can be taken to reduce this stress without endangering patient health should be welcomed. Our study showed that nearly one third of all prescriptions for childhood illness were for antibiotics to treat respiratory conditions. It is clear from this that more conservative prescribing practices in this area would result in considerable savings in the drug bill for children without demonstrably influencing levels of child health. The second consideration is that the widespread use of antibiotics may encourage the development of drug resistant strains of bacteria necessitating the development of better drugs which may in turn lead to the development of more resistant bacteria and so on.

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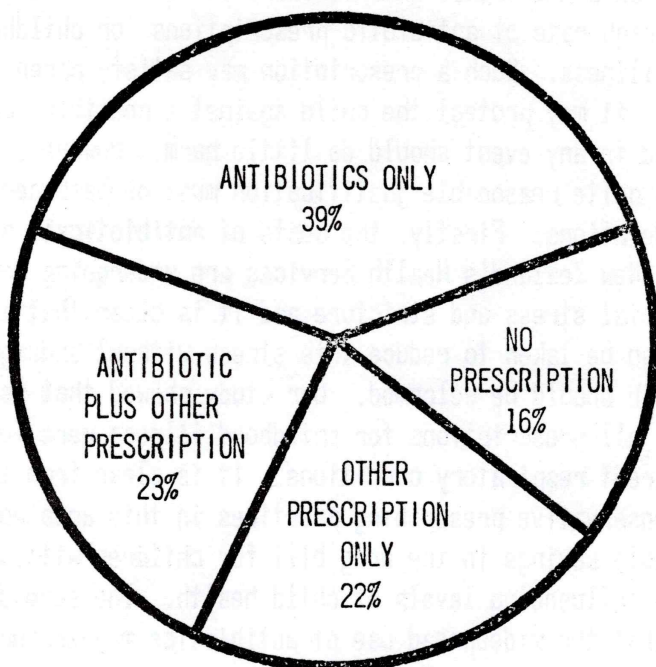


FIGURE 3.4: Doctors' prescribing patterns for respiratory illness.

3.5 Swimming Pools

In the last five years there has been a small but steady increase in the number of New Zealand pre-school children drowned in domestic swimming pools and recently the issue of pool safety has become a matter of increasing concern. However, very little is known about the safety standards of the growing number of domestic swimming pools. We therefore decided to examine the extent to which children in the birth cohort were exposed to domestic swimming pools and the extent of safety measures of these pools. This study revealed some disturbing results. Three out of every 10 children were living in close proximity to a domestic swimming pool. One in ten had a pool in the child's home and two in ten had immediate neighbours with swimming pools. The safety standards of domestic swimming pools were not good - less than half were fenced, just over half had sides over a metre high and only a small minority were fenced with a self-closing or padlocked gate. Further, one in five pools had no safety features whatsoever (Figure 3.5).

Inevitably the conclusions of the study must be that unprotected domestic swimming pools are a growing source of drowning hazard to pre-school children. While, fortunately, the rate of mortality from drowning is low (approximately 1.2 per 10,000 children aged 1 - 4 years) the fact remains that drowning is one of the three major sources of mortality for children aged 1 - 4 years and accounts for about 10% of all deaths occurring to this age group. It is clear then that anything that can be done to reduce drowning risks will result in an improvement in the mortality statistics for pre-school children.

There is ample evidence from research conducted in

Australia that the introduction of fencing by-laws requiring all domestic swimming pools to be fenced and to have a self closing gate will have a dramatic effect on swimming pool drownings. For example, Australian Capital Territory introduced fencing by-laws in 1975 and in the five year period subsequent to the introduction of these laws only one child drowned in a domestic swimming pool. In contrast, Brisbane which is of a similar size but does not have pool fencing by-laws had 55 deaths. More generally, it has been found that States in Australia which have introduced fencing by-laws have had rates of drowning which have declined or remained static; in States where laws have not been introduced, pool drownings have increased steadily. Regrettably, relatively few County Councils in New Zealand have followed the Australian lead although the Standards Council has introduced a model by-law. The general response to the suggestion that by-laws should be introduced making pool fencing a legal requirement has been to produce considerable public controversy and media coverage but remarkably little positive action. What the findings of the Christchurch Child Development Study show is that this action is sorely needed.

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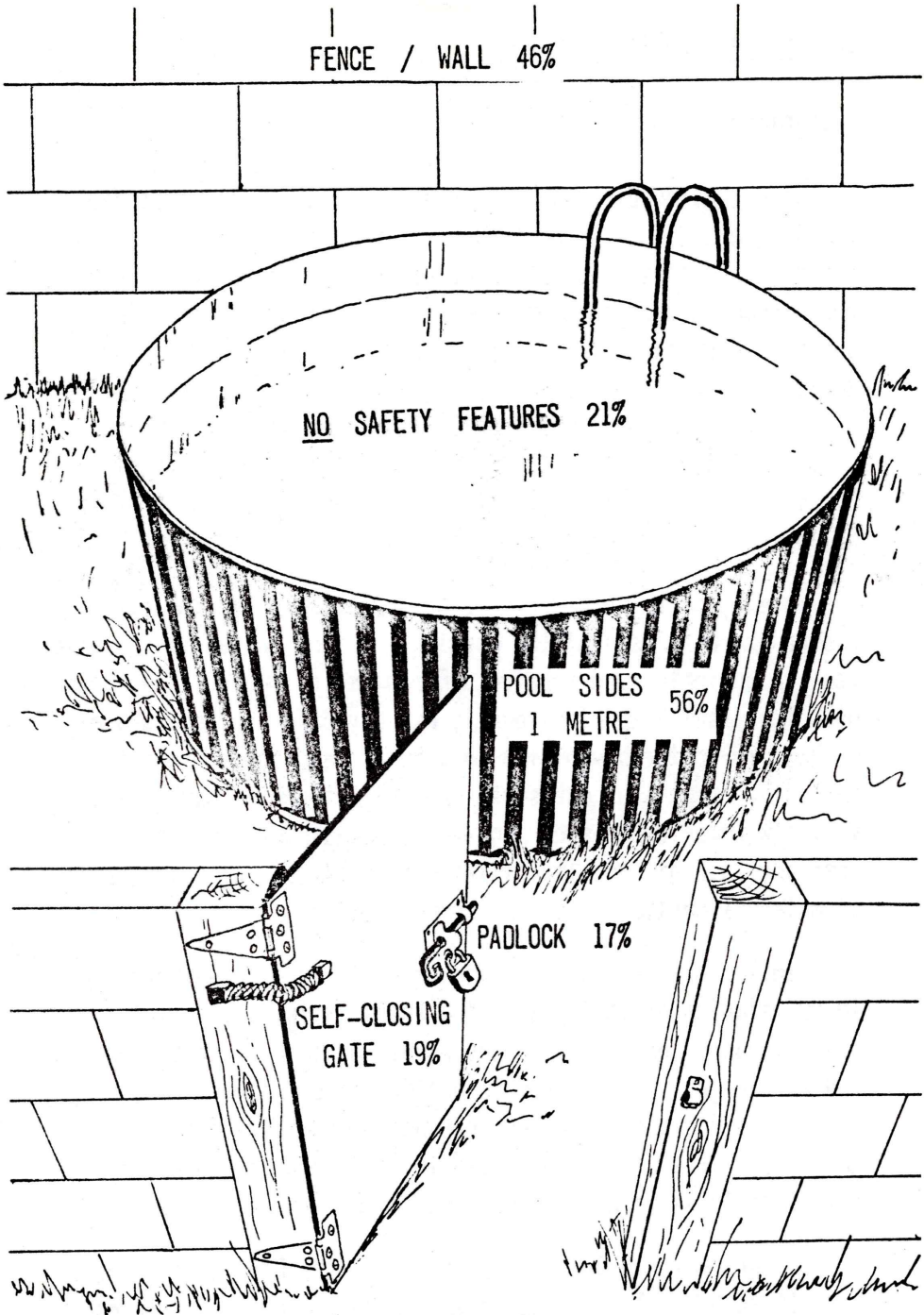


FIGURE 3.5: Safety features of domestic swimming pools.

CHAPTER 4. SOCIAL ISSUES

4.1 Introduction

This section discusses the results of a series of studies which bear on a number of issues of contemporary concern: family planning and contraception; the day care needs of women who work in paid employment and the problems of single parenthood and marriage breakdown. It is no accident that most of these topics deal with issues which have been the source of quite intense public debate and speculation, since we have seen one of the primary roles of the Christchurch Child Development Study as providing factual information on which to base reasoned policies that will meet the needs of young families.

In many cases we have found our results to be completely discrepant with many of the popular opinions and attitudes which tend to dominate such debates. For example, while it has been held that lack of professionally run day care centres is a major problem for mothers who wish to work in paid employment, in fact, the results of our study suggest (in Christchurch at least) very few women experience problems in obtaining day care and that any lack of such facilities has an almost negligible effect on maternal participation in the work force.

Similar but perhaps less marked differences have been found in our studies of family planning where it is often held that unplanned pregnancy is the result of lack of education and knowledge. This simply is not so since the great majority of mothers who had unplanned pregnancies (both married and unmarried) were well experienced in contraception and over two-thirds of these women had used the contraceptive pill.

In our research into the adequacy of the Domestic Purposes Benefit we have clearly encountered some of the shortcomings

of the recommendations of the Domestic Purposes Benefit Review Committee which concluded that the Domestic Purposes Benefit was an incentive to marriage breakdown and recommended reductions in the rates of benefit paid to counteract this. In fact, our study shows that since this policy was introduced rates of marriage breakdown for this cohort have remained more or less static but at the same time the proportion of single parent families reporting hardship has more than doubled.

These examples clearly underline the need for social policies in New Zealand to be based on factual information rather than the current mixture of unbridled speculation and wishful thinking which dominates many discussions of social issues.

4.2 Family Planning and Contraception

Various issues relating to the planning of pregnancies have attracted considerable public attention in the last decade with this debate culminating, at least temporarily, in the passing of the Contraception, Sterilisation and Abortion Legislation of 1978. However, despite much public debate, relatively little has been known about family planning practices in New Zealand and particularly about the proportions of live born children who are unplanned. In the first stage of the Christchurch Child Development Study we therefore set out to answer a number of questions about family planning and contraceptive practices. In particular, we were concerned to know how many live born children were unplanned, what proportion of these children were unwanted and what factors were associated with failure to plan pregnancies.

We defined a planned pregnancy as being one in which both partners were not using contraception at the time of conception because they hoped or expected to have a child. On the basis of this definition, unplanned pregnancies were very common, with 30% of married mothers having unplanned pregnancies and 82% of unmarried mothers having unplanned pregnancies (Figure 4.1). The surprising fact here was that nearly one in five mothers of ex-nuptial children had a planned pregnancy. The reason for this was that large numbers (48%) of ex-nuptial children were conceived to parents who were living together at the time of conception and in many ways these de facto unions differed little from legal marriages.

While many children were unplanned, we could find little evidence to suggest that unplanned children were often or usually unwanted children. This point is best illustrated by a comparison of the mother's description of her reactions to the pregnancy at the time she first learned of the conception and at the time of birth (Figure 4.2). Mothers who had unplanned children frequently reported that they were not pleased

about the conception, at the time they learned of the pregnancy. However, at the time of the birth, the great majority (over 95%) of mothers reported being pleased or very pleased that they had had a child. This result tends to suggest that throughout pregnancy many women gradually changed their attitude towards the pregnancy with the result that what was initially seen as an undesirable pregnancy became more attractive. Of course, one must take into account the fact that many women may have found it difficult to admit they were not happy about having a child after the child was born, but when we analysed other figures relating to the mother's reactions to unplanned pregnancy, we could find very little evidence to suggest that most unplanned children were seen as unwanted children. The only exception to this trend was amongst those women who elected to place their (ex-nuptial) child for adoption. The message of the research seems to be then that while many are unplanned, few are unwanted.

It is often argued that failure to plan a pregnancy results from deficiencies in maternal education, from lower socio-economic class and lack of knowledge of contraception. Not so! When we analysed the social factors associated with the planning of pregnancy, we could find little evidence to suggest that social factors were related to family planning practices: women with no formal educational qualifications were just as good at planning their pregnancies as those with university degrees, and there was no evidence to suggest that Catholic women were any more at risk of having an unplanned pregnancy than non-Catholic women, although this is sometimes claimed. The only social factor we could find related to the planning of pregnancy was ethnic status with Maori women being slightly more prone to have unplanned pregnancies than Pakeha women.

A similar trend was found when we looked at patterns of contraceptive usage and experience: all women were able to name

at least one method of contraception and the great majority (both married and unmarried) had experience with at least one contraceptive method. The contraceptive pill was by far the most commonly used method, having been used by 87% of married women and 63% of unmarried women. These results suggested that educational factors or gross defects in women's knowledge or experience with contraceptive methods could not explain the relatively high rate of unplanned pregnancy. However, more detailed questioning of mothers revealed a number of common factors which appeared to account for many unplanned pregnancies (Figure 4.3).

The most striking finding was the frequency with which various problems and difficulties in managing the contraceptive pill were associated with unplanned pregnancies: some women became pregnant while using this method (usually because of failure to take one or more pills); some experienced side effects and ceased using the pill; some told us they were "resting" from the pill and others simply ran out of pills. When all of the sources of pill problems and pill failures were totalled, it turned out that just over one unplanned pregnancy in three was the result of some failure in the woman's pattern of usage of the contraceptive pill. Interestingly, this proportion was similar for both married and unmarried women.

While problems in managing the contraceptive pill stood out as being the largest common factor in unplanned pregnancy there were other less frequent causes: some women told us they had simply decided to take a risk with unprotected intercourse; others were (mistakenly) of the belief that they were infertile and could not get pregnant; others had personal or religious objections to contraception. Very few mothers (4%) attributed their unplanned pregnancy to lack of knowledge of contraception.

Superficially, the finding that the pill was implicated in over one third of unplanned pregnancies runs counter to the view that the pill is one of the most effective contraceptive methods. However, the poor performance of the pill can be attributed to two factors. First, the pill was by far the most popular method of contraception and because of this, larger numbers of failures tended to occur simply because of the large numbers of women using the method. Second, the results say very little about the technical performance of the pill but relate the difficulties that women had in using this method. Thus, while technically, the pill is an efficient contraceptive, to be completely effective it must be used with an almost machine-like regularity and it is not surprising to find that not all women are able to keep up the demanding regime of daily pill taking throughout their reproductive lives. These considerations suggest that the next family planning "breakthrough" will probably involve the development of a contraceptive method which is technically as efficient as the pill but which is far less demanding to use.

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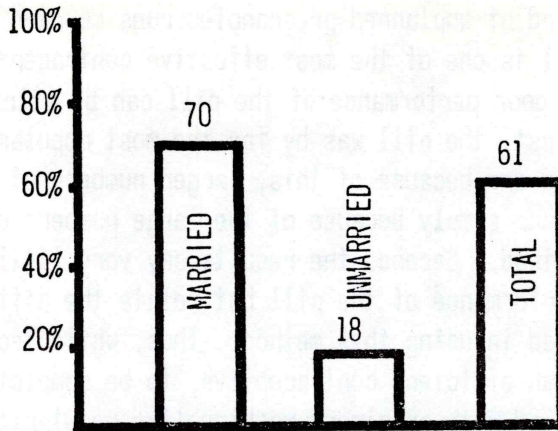


FIGURE 4.1: Proportions of planned children by marital status of mother.

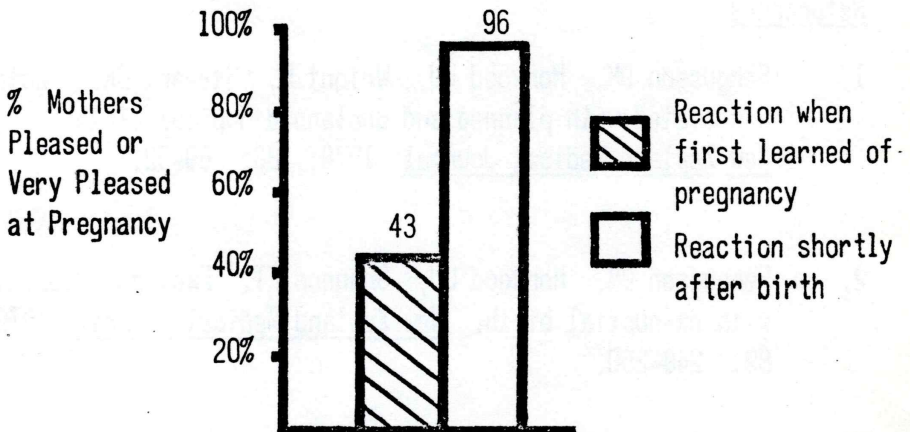


FIGURE 4.2: Reactions to pregnancy by mothers of unplanned children.

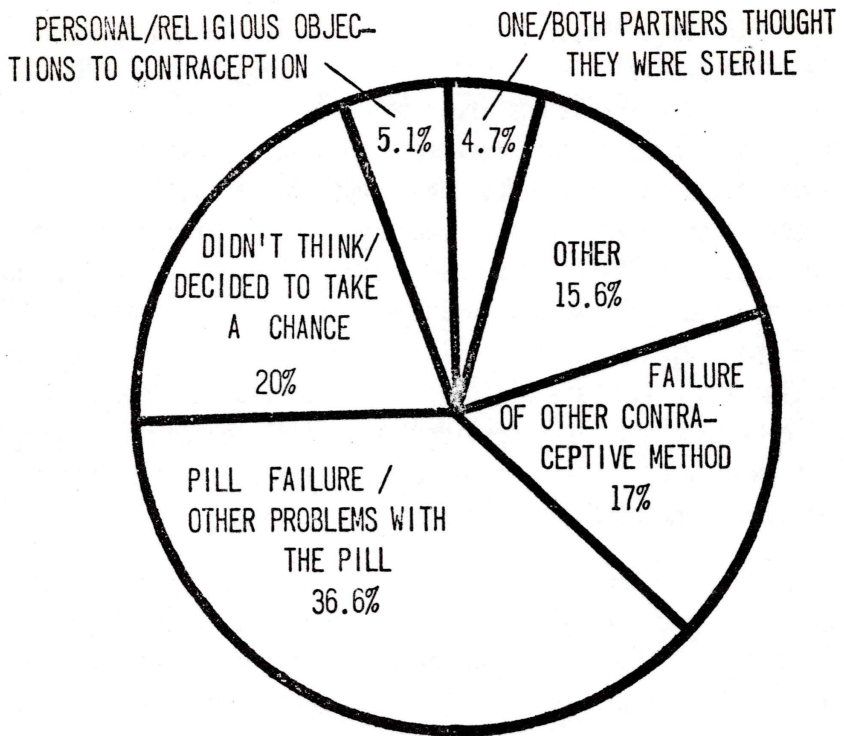


FIGURE 4.3: Reasons for unplanned pregnancy.

4.3 Working Mothers and Day Care Needs

In the last decade there has been an increasing emphasis placed on providing women with a greater range of opportunities other than the traditional role of "wife and mother". One of the consequences of this movement has been a growing concern about providing for the day care needs of the mother of the preschool child who wishes to work and many claims have been made about the limitations that absence of suitable professional day care facilities place on the work force participation of mothers with preschool children. A study of the three year working and child care history of the mothers in the Christchurch Child Development Study provided very little evidence to suggest that there were large demands for day care facilities amongst the working mothers of the sample.

During the three year period just over half of all mothers worked in some form of paid employment at some time. However, for most working mothers the amount of time per week spent in paid employment was relatively short: approximately 10 hours per week. In terms of child minding while the mother worked, the most frequently chosen option was that the child was cared for by the child's parents or other relatives; paid child-minders were the next most common source of childminding (Figure 4.4). Day care centres and creches provided only 7% of the child care hours while mothers worked and this appeared to reflect parental day care choices rather than absence of day care centres.

When mothers were questioned about the child care facilities they would like while they were working or if they were to work, we found that only three out of every 100 women were either using day care facilities or expressed a desire to use day care facilities while they worked. These results suggested that the level of unfulfilled day care needs for this sample was relatively small and that absence of suitable day care facilities was not seen as a barrier to the mother working. This view was

confirmed by the fact that when women were asked whether absence of suitable day care facilities had ever prevented their taking or keeping a job only 3% said that this had happened.

The findings of the study contrast sharply with some of the claims that have been made about day care needs of the working mother and there is little doubt that there is a strong public belief that there is a chronic shortage of day care facilities and this is hampering the job opportunities of women with pre-school children. Interestingly, we found evidence of this belief in our study. When we asked mothers what steps could be taken to improve motherhood, we found that over 40% of women suggested a need for more day care, yet at the same time, only three per cent of women expressed a need for day care for their own purposes. It seems highly likely that what happened was that many women were echoing the popular view that lack of day care centres is a major problem for mothers with pre-school children rather than describing their own needs.

Inevitably the results of this research are likely to evoke the response that we are "against" day care and that our research is designed to reinforce the traditional role of women as being wives and mothers. In fact, this is not so and to make the matter perfectly explicit we are strongly of the belief that high quality day care facilities should be available to mothers should they work. At the same time, we are firm in our opinion that the level of need for these facilities should be estimated on the basis of carefully conducted research rather than being established on the basis of idealism and good intentions.

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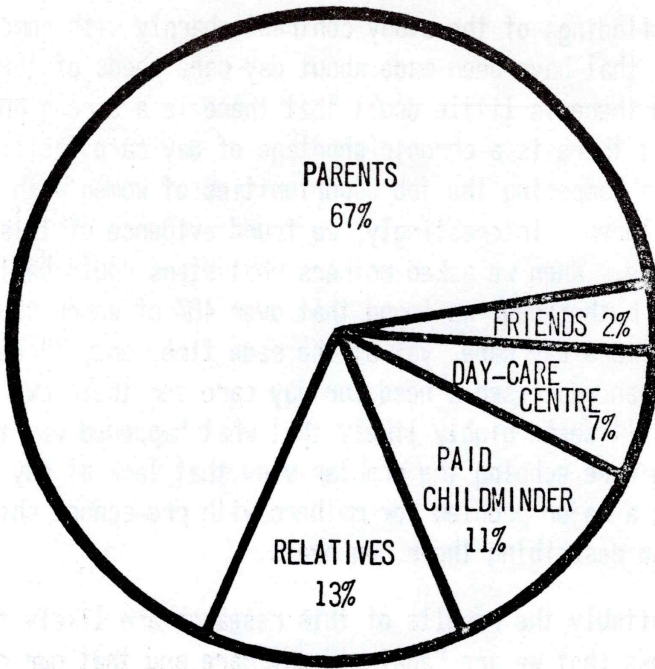


FIGURE 4.4: Sources of child care for working mothers.

4.4 Marriage Breakdown and Single Parenthood

One of the major concerns of the Christchurch Child Development Study has been with patterns of family formation and breakdown and the effects of varying family situations on the health of children. It is often thought that the "standard" New Zealand family consists of two married parents having one or more children. However, evidence from the study shows that there is a clear trend for substantial numbers of children to be reared in situations which differ from this standard family. In fact, by four years nearly a quarter of children in the study had experienced what previously might have been considered as unusual or different family situations: 16% had spent some time in a single parent family either as the result of marriage breakdown or the decision of a single woman to rear her child in a solo family; 4% had been reared in stable two parent de facto married families and a further 4% had been adopted at the time of birth (Figure 4.5).

In addition, the results show that over the four year period there was a small but nonetheless persistent tendency for children to move between family situations. Each year about four in every 100 children who were in two parent families moved to single parent families as the result of marriage breakdowns while at the same time about 20 in every 100 children in single parent families moved to two parent families as the result of marriage formations. While these relatively small changes do not seem to be of great importance, the effects of consistent changes of this type over a period of years are quite dramatic. By extrapolating the trends in the data obtained to four years, we found that if present trends persist, the children who will be reared in a standard New Zealand family with two married parents throughout childhood would be nearly in the minority and that in the region of 38% of the sample would have spent some time in a single parent family before they were 16 years old (Figure 4.6).

Of course, whether these predictions will be fulfilled is a matter for speculation and it may be that the family patterns of the sample will stabilise as children get older.

Given the large numbers of children who are expected to spend some time in a single parent family, it is a matter of obvious importance to assess whether the health and wellbeing of these children differs from those in "standard" New Zealand families. Regrettably, the four year data collected in the Christchurch Child Development Study suggests that the level of health and wellbeing of children who enter single parent families, either at birth or as the result of marriage breakdown is not as good as those who remained with two parent families. This point is illustrated in Figure 4.7 which shows the proportions of children who fell into the lowest 10% of a disadvantage score constructed in the research. The development of the score was rather complex in theory but in practice is simple to explain since it is based on a count of the number of adverse conditions that the child had encountered before his third birthday. These adverse conditions included such things as failing to receive adequate preventive health care, hospital attendance for bronchitis, pneumonia, gastroenteritis or accidents, lack of stimulating conditions in the child's home (e.g. books, toys, etc.), failure to attend kindergarten or playcentre, depressed family material conditions and lack of an adequate play area. While individually these adverse conditions do not show that a child is disadvantaged, we found that there were a number of children who had suffered many or all of these adversities before three years and these were clearly an underprivileged group. We somewhat arbitrarily decided to treat the 10% of children who had suffered the most adversity as being a disadvantaged group. Figure 4.7 shows that, in fact, 6% of children who remained in the same two parent family since birth fell into this category while over one third of children who entered single parent families either at birth or subsequent to birth were in this group. The findings suggest, therefore,

that as a group children who entered single parent families were disadvantaged when compared with their peers in two parent families.

However, it would be completely incorrect to conclude that these statistics show that single parent families (in and of themselves) are a bad thing. In fact, when we analysed the results of the study, they revealed that the reasons children in single parent families were not doing so well were largely the result of a series of problems and stresses which were more frequent in these families. Single parent families were less well off (see also, Section 4.5); the mothers in these families reported stressful experiences and problems; single families often had to change home on several occasions; and mothers rearing children single-handed found it harder to cope with the demands of their children. These facts suggest that the greater disadvantage faced by children in single parent families is very largely the result of various social, economic and other stresses faced by women in these families and it is clear that greater support given to single parent families to reduce these sources of stress could have a dramatic effect on the wellbeing of the children in these families.

What our findings suggest is that, providing a single mother is caring, understands the needs of children and has sufficient financial and emotional resources to confront the task of rearing a child alone, there is no good reason to believe that her child will be disadvantaged by the experience.

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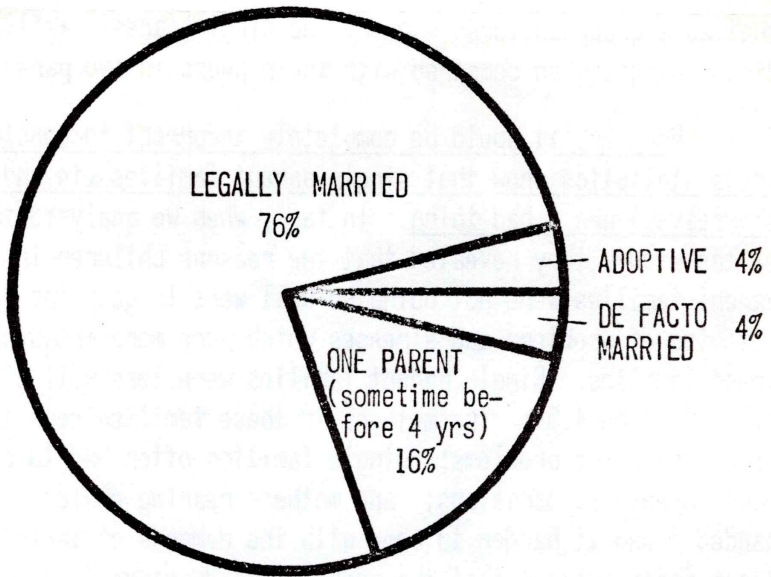


FIGURE 4.5: Family placement of children from birth to 4 years.

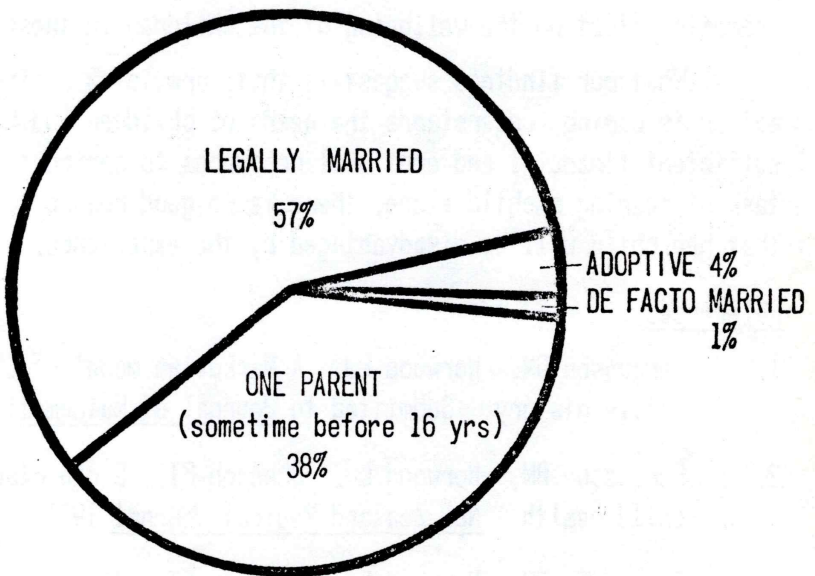


FIGURE 4.6: Projected family placement of children from birth to 16 years.

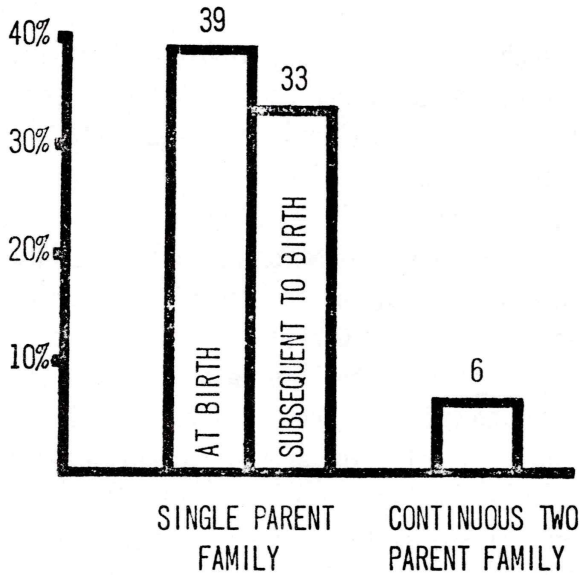


FIGURE 4.7: Percentages of children in the lowest 10% of the disadvantage score by family placement.

4.5 The Adequacy of the Domestic Purposes Benefit for Single Mothers

The Domestic Purposes Benefit was introduced as a statutory benefit in 1972, primarily as a means of providing financial support to a growing number of single parent families. Since this time there have been sporadic outbreaks of public controversy about this benefit. On the one hand, it is held that the level of benefit is such as to place many single mothers in hardship if not poverty whereas on the other hand it has been argued that the benefit acts as an incentive to marriage breakdown. It seems unlikely that both these arguments can be true simultaneously: if the benefit is inadequate it would seem highly unlikely that its presence could be a stimulus for marriage breakdown in the absence of other strong reasons for the dissolution of marriage. Throughout the course of the Christchurch Child Development Study we have been questioning mothers in receipt of the Domestic Purposes Benefit about the adequacy of their benefit and this has revealed a clear trend over time for the proportions of women reporting their benefit to be inadequate to show a steady increase: when mothers were questioned at four months, approximately one in four reported that the benefit was inadequate to maintain a modest but reasonable standard of living and only 5% said that it was very inadequate. At this time, it appeared to us that with some minor modification to the benefit formula to allow for greater flexibility in rental supplements that, by and large, the benefit was adequate for most single mothers. However, in the ensuing four years there was a clear trend for the proportions of women reporting inadequacy of the benefit to increase so that by the time children were four years old the proportions of women reporting benefit inadequacy had doubled: at this time 48% of mothers on the Domestic Purposes Benefit described their benefit as inadequate and 12% said it was very inadequate (Figure 4.8).

The reasons for this growing proportion of mothers reporting benefit inadequacy are likely to be complex and cannot be completely

explained on the basis of the data collected in the Study. However, two major factors are likely to have been involved. First, since the Study started various modifications have occurred to the formula by which the Domestic Purposes Benefit is calculated. These steps included the implementation of the recommendations of the Domestic Purposes Benefit Review Committee that the Benefit be paid at a reduced rate during the first six months and greater restrictions on the payment of the Additional Benefit component. Both of these moves tended to reduce the real income of women in receipt of the Domestic Purposes Benefit and it seems likely that some component of the increasing proportions of single mothers reporting Benefit inadequacy can be attributed to the fact that the real value of the Domestic Purposes Benefit and its supplements has declined in the last five years.

This trend is, however, also confused with the fact that children in the Study have been growing older with the result that costs faced by beneficiaries for their children have increased. So it seems likely that to a large extent the declining position of the Domestic Purposes Beneficiaries in this study has been the result of declining benefit levels coupled with increases in costs for older children.

While the number of women on the Domestic Purposes Benefit studied in the Christchurch Child Development Study and the age range of their children is not sufficient to use the Study results as a basis for propounding general policies for benefit payments to single and separated mothers, the trends which show decreasing adequacy of the benefit over time are clearly ominous and suggest a need for a comprehensive review of the adequacy of financial support provided to these families.

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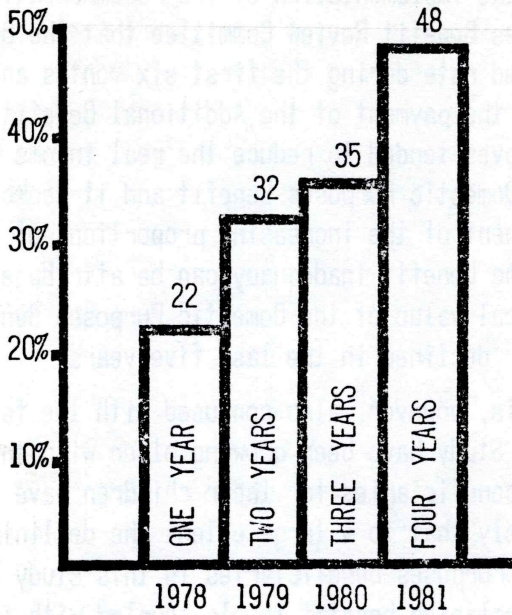


FIGURE 4.8: Proportions of Domestic Purposes Beneficiaries reporting Benefit inadequate to meet every-day living costs.

CHAPTER 5. OUR OVERALL IMPRESSIONS FROM THE RESEARCH

The preceding pages deal with a large number of quite diverse topics ranging from breast-feeding through swimming pool safety to the problems of the single parent. In this welter of facts, it is easy to lose sight of the general contours of the research and become submerged in detail. At this point we would, therefore, like to venture a number of our impressions about the state of wellbeing of the children who have participated in the Christchurch Child Development Study.

In recent years there has been a certain pessimism about the health and wellbeing of New Zealand children and this has largely been prompted by the fact that New Zealand child mortality statistics have not been improving at the same rate as those in other countries and, notably, those of Sweden. However, childhood mortality is a very limited measure of childhood wellbeing and fails to summarise many of the variations in the quality of early childhood. Our overwhelming impression from the Christchurch Child Development Study has been that in terms of the results from other studies of early childhood wellbeing the children in the Christchurch Child Development Study were an advantaged group living in a caring and motivated community concerned about the wellbeing of its children.

However, this is not to say that there is no social inequality in New Zealand. In fact, throughout the study we have found consistent trends for levels of child health and wellbeing to vary with family social, ethnic, educational and economic circumstances and there is little doubt that some New Zealand children are reared in socially privileged environments whereas others experience less privileged conditions. We also conjecture that these trends will continue as the cohort grows older and that our disadvantaged four-year-olds will emerge in later life as being disproportionately represented amongst the children with school problems, juvenile

offending and the unemployed. Thus, while social differences may be relatively benign in New Zealand when compared to other countries they still "count" and it is clearly up to the community to make every effort to achieve a situation in which the effects of these inequalities are reduced. This, of course, is far easier said than done since most of human history can be looked at in terms of movements to reduce social inequalities which have been defined on the basis of race, religion, class, income and the like. At the same time, a study of history does give rise to considerable optimism for the view that things for New Zealand children will improve (providing some major catastrophe does not strike). While many people talk in sentimental terms about the "good old days" most overlook that in terms of child health and wellbeing there was little good to be said about them and that the modern New Zealand child enjoys standards of health, education, social opportunity and life expectation which would have been considered nothing short of miraculous 100 years ago. It is to be hoped that this general trend will continue and we see a major role of the Christchurch Child Development Study to document where we are so that we can see more clearly where we should be going.

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